AMENDED CLAIMS

[received by the International Bureau on 19 December 1997 (19.12.97); original claims 1 and 3-13 amended; new claims 1-17 added; remaining claim unchanged (3 pages)]

The claims of the invention are as follows:

1. An aqueous coating composition comprising an anionically stabilised addition polymerised polymeric dispersion polymerised from a carboxylic acid containing ethylenically unsaturated monomer selected from acrylic acid and methacrylic acid, a hydrophobic aromatic ethylenically unsaturated high Tg monomer selected from styrene and alpha methyl styrene and an C_2 - C_{12} acrylate ester monomer characterised in that the relative proportions of ethylenically unsaturated monomers are selected such that the following Equation I is satisfied:

$$a = \frac{5 + b}{(c + d/2.4)^2} \qquad I$$

where a = 2 - 13

b = weight percent hydrophobic aromatic high Tg monomer

c = weight percent acrylic acid

d = weight percent methacrylic acid

and characterised in that the polymeric dispersion has Tg 30°C maximum.

2. An aqueous coating composition as defined in Claim 1 wherein the hydrophobic aromatic ethylenically unsaturated monomer is in the range 8 - 70%.

3. An aqueous coating composition as defined in Claims 1 or 2 wherein the hydrophobic aromatic ethylenically unsaturated monomer is in the range 15-50%.

4. An aqueous coating composition as defined in any one of Claims 1 to 3 wherein the hydrophobic aromatic ethylenically unsaturated monomer is styrene.

5. An aqueous coating composition comprising an anionically stabilised addition polymerised polymeric dispersion polymerised from a carboxylic acid containing ethylenically unsaturated monomer selected from acrylic acid and methacrylic acid, a hydrophobic aromatic ethylenically unsaturated high Tg monomer selected from styrene, alpha methyl styrene and vinyl toluene and an C_2 - C_{12} acrylate ester monomer characterised in that the relative proportions of ethylenically unsaturated monomers are selected such that the following Equation I is satisfied:

$$a = \frac{5 + b}{}$$

$$(c + d/2.4)^2 \qquad I$$

where a = 2 - 13

b = weight percent hydrophobic aromatic high Tg monomer

c = weight percent acrylic acid

d = weight percent methacrylic acid

and further characterised in that the polymeric dispersion has Tg 30°C maximum and the maximum weight percent of acrylate ester monomer is 60%.

6. An aqueous coating composition as defined in any one of Claims 1 to 5 wherein a in Equation I is in the range 2.5 to 9.5.

7. An aqueous coating composition as defined in any one of Claims 1 to 6 wherein the weight majority of the carboxylic acid containing ethylenically unsaturated monomer is acrylic acid.

8. An aqueous coating composition as defined in any one of Claims 1 to 7 wherein the Tg of the polymeric dispersion is - 15°C minimum.

9. An aqueous coating composition as defined in Claim 8 wherein the Tg of the polymeric dispersion is -5 to 30°C.

10. An aqueous coating composition as defined in any one of Claims 1 to 9 wherein the particle size of the polymeric dispersion is 200 nanometers (number average) maximum.

11. An aqueous coating composition as defined in Claim 10 wherein the particle size of the polymeric dispersion is 150 nanometers maximum.

12. An aqueous coating composition as defined in Claim 10 wherein the particle size of the polymeric dispersion is 120 nanometers maximum.

13. An aqueous coating composition comprising a blend of low Tg and high Tg aqueous polymeric dispersions wherein the polymer dispersion with low Tg has a Tg less than 0°C and the polymer dispersion with high Tg has a Tg of at least 25°C and is as defined in any one of Claims 1 to 12 with the proviso that the Tg maximum limitation of Claim 1 is removed and vinyl toluene is included in Claim 1 as a further hydrophobic aromatic ethylenically unsaturated high Tg monomer and wherein the volume ratio of low Tg to high Tg polymer dispersion is from 0.4:1 to 3:1.

14. An aqueous coating composition as defined in Claim 13 wherein the low Tg polymer dispersion is non-ionically stabilised.

15. An aqueous coating composition as defined in Claim 13 wherein the low

Tg polymer dispersion is as defined in any one of Claims 1 to 12 with the proviso that vinyl toluene is included in Claim 1 as a further hydrophobic aromatic ethylenically unsaturated high Tg monomer.

16. An aqueous polymeric dispersion as defined in any one of Claims 1 to 12.

17. An aqueous polymeric dispersion as defined in any one of Claims 1 to 12 except that the polymeric dispersion has a Tg greater than 30°C but not more than 60°C and further characterised in that the weight majority of carboxylic acid containing ethylenically unsaturated monomer is acrylic acid.

STATEMENT UNDER ARTICLE 19

Claims 1 and 3 to 13 are replaced by amended claims 1 and 3 to 17. Claim 2 is unchanged.